

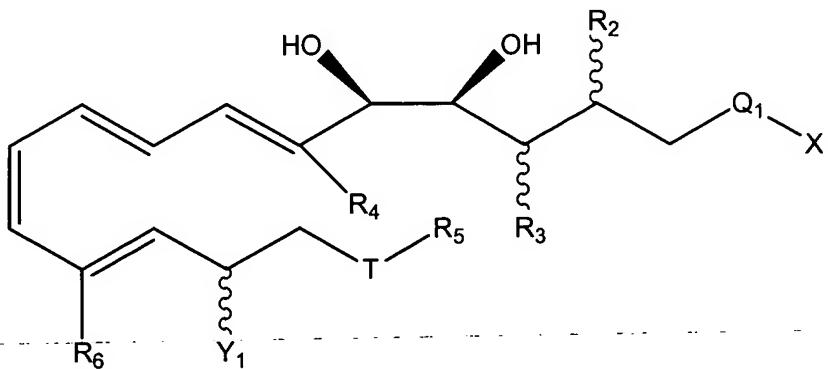
**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listing, of claims in the application:

**Listing of Claims:**

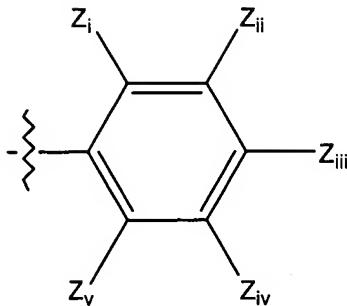
Claims 1-19. (Canceled)

Claim 20. (Currently amended) A method for treating phospholipase D (PLD) initiated polymorphonuclear (PMN) inflammation in a subject, comprising administering to the subject an effective anti-inflammatory amount of a lipoxin analog having the formula



wherein X is R<sub>1</sub>, OR<sub>1</sub>, or SR<sub>1</sub>;  
wherein R<sub>1</sub> is

- (i) a hydrogen atom;
- (ii) an alkyl of 1 to 8 carbon atoms, inclusive, which may be straight chain or branched;
- (iii) a cycloalkyl of 3 to 10 carbon atoms;
- (iv) an aralkyl of 7 to 12 carbon atoms;
- (v) phenyl;
- (vi) substituted phenyl

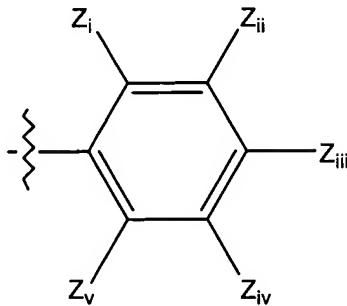


wherein  $Z_1$ ,  $Z_2$ ,  $Z_3$ ,  $Z_4$  and  $Z_5$  are each independently selected from  $-\text{NO}_2$ ,  $-\text{CN}$ ,  $-\text{C}(\text{=O})-\text{R}_T$ ,  $-\text{SO}_3\text{H}$ , a hydrogen atom, halogen, methyl,  $-\text{OR}_x$ , wherein  $\text{R}_x$  is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl;

- (vii) a detectable label molecule; or
- (viii) a straight or branched chain alkenyl of 2 to 8 carbon atoms, inclusive;

wherein  $\text{R}_T$  is

- (i) a hydrogen atom;
- (ii) an alkyl of 1 to 8 carbon atoms, inclusive, which may be straight chain or branched;
- (iii) a cycloalkyl of 3 to 10 carbon atoms;
- (iv) an aralkyl of 7 to 12 carbon atoms;
- (v) phenyl;
- (vi) substituted phenyl



wherein  $Z_1$ ,  $Z_2$ ,  $Z_3$ ,  $Z_4$  and  $Z_5$  are each independently selected from  $-\text{NO}_2$ ,  $-\text{CN}$ ,  $-\text{SO}_3\text{H}$ , a hydrogen atom, halogen, methyl,  $-\text{OR}_x$ , wherein  $\text{R}_x$  is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl;

wherein  $Q_1$  is  $(\text{C}=\text{O})$ ,  $\text{SO}_2$  or  $(\text{CN})$ , provided when  $Q_1$  is  $\text{CN}$ , then  $X$  is absent;

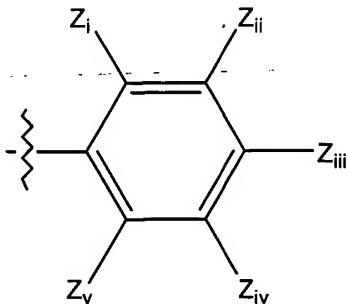
wherein  $Q_3$  and  $Q_4$  are each independently O, S or NH;  
 wherein one of  $R_2$  and  $R_3$  is a hydrogen atom and the other is

- (a) H;
- (b) an alkyl of 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched;
- (c) a cycloalkyl of 3 to 6 carbon atoms, inclusive;
- (d) an alkenyl of 2 to 8 carbon atoms, inclusive, which may be straight chain or branched; or
- (e)  $R_a Q_2 R_b$  wherein  $Q_2$  is  $-O-$  or  $-S-$ ; wherein  $R_a$  is alkylene of 0 to 6 carbons atoms, inclusive, which may be straight chain or branched and wherein  $R_b$  is alkyl of 0 to 8 carbon atoms, inclusive, which may be straight chain or branched, provided when  $R_b$  is 0, then  $R_b$  is a hydrogen atom;

wherein  $R_4$  is

- (a) H;
- (b) an alkyl of 1 to 6 carbon atoms, inclusive, which may be a straight chain or branched;

wherein  $R_5$  is



wherein  $Z_i$ ,  $Z_{ii}$ ,  $Z_{iii}$ ,  $Z_{iv}$  and  $Z_v$  are each independently selected from  $-NO_2$ ,  $-CN$ ,  $-C(=O)-R_1$ ,  $-SO_3H$ , a hydrogen atom, halogen, methyl,  $-OR_x$ , wherein  $R_x$  is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl or a substituted or unsubstituted, branched or unbranched alkyl group;

wherein  $Y_1$  is  $-OH$ , methyl,  $-SH$ , an alkyl of 2 to 4 carbon atoms, inclusive, straight chain or branched, an alkoxy of 1 to 4 carbon atoms, inclusive, or  $CH_aZ_b$  where  $a+b=3$ ,  $a=0$  to 3,  $b=0$  to 3 and  $Z$  is cyano, nitro or a halogen;

wherein  $R_6$  is

- (a) H;
- (b) an alkyl from 1 to 4 carbon atoms, inclusive, straight chain or branched;

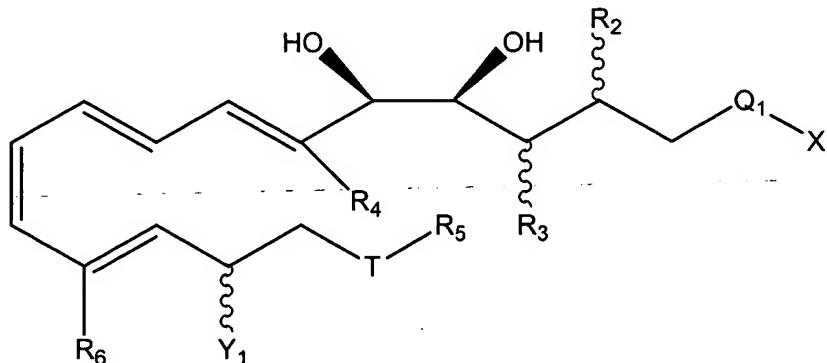
wherein T is O or S, and pharmaceutically acceptable salts thereof, such that PLD initiated polymorphoneutrophil (PMN) inflammation is treated in a subject.

Claim 21. (Original): The method of claim 20, wherein said method is performed *in vitro*.

Claim 22. (Original): The method of claim 20, wherein said method is performed *in vivo*.

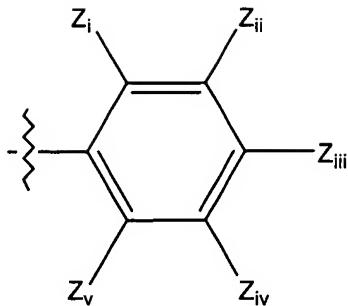
Claims 23-26. (Canceled)

Claim 26. (Currently amended) A method for treating phospholipase D (PLD) initiated superoxide generation or degranulation in a subject, comprising administering to the subject an effective anti-PLD amount of a lipoxin analog having the formula



wherein X is R<sub>1</sub>, OR<sub>1</sub>, or SR<sub>1</sub>;  
wherein R<sub>1</sub> is

- (i) a hydrogen atom;
- (ii) an alkyl of 1 to 8 carbons atoms, inclusive, which may be straight chain or branched;
- (iii) a cycloalkyl of 3 to 10 carbon atoms;
- (iv) an aralkyl of 7 to 12 carbon atoms;
- (v) phenyl;
- (vi) substituted phenyl

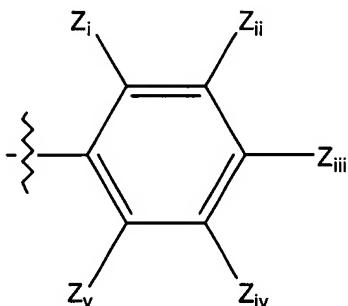


wherein  $Z_i$ ,  $Z_{ii}$ ,  $Z_{iii}$ ,  $Z_{iv}$  and  $Z_v$  are each independently selected from  $-\text{NO}_2$ ,  $-\text{CN}$ ,  $-\text{C}(=\text{O})-\text{R}_T$ ,  $-\text{SO}_3\text{H}$ , a hydrogen atom, halogen, methyl,  $-\text{OR}_x$ , wherein  $R_x$  is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl;

- (vii) a detectable label molecule; or
- (viii) a straight or branched chain alkenyl of 2 to 8 carbon atoms, inclusive;

wherein  $R_T$  is

- (i) a hydrogen atom;
- (ii) an alkyl of 1 to 8 carbons atoms, inclusive, which may be straight chain or branched;
- (iii) a cycloalkyl of 3 to 10 carbon atoms;
- (iv) an aralkyl of 7 to 12 carbon atoms;
- (v) phenyl;
- (vi) substituted phenyl



wherein  $Z_i$ ,  $Z_{ii}$ ,  $Z_{iii}$ ,  $Z_{iv}$  and  $Z_v$  are each independently selected from  $-\text{NO}_2$ ,  $-\text{CN}$ ,  $-\text{SO}_3\text{H}$ , a hydrogen atom, halogen, methyl,  $-\text{OR}_x$ , wherein  $R_x$  is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl;

- (vii) a detectable label molecule; or
- (viii) a straight or branched chain alkenyl of 2 to 8 carbon atoms, inclusive;

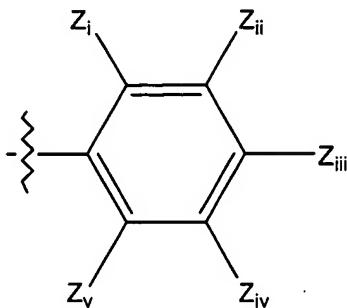
wherein  $Q_1$  is  $(C=O)$ ,  $SO_2$  or  $(CN)$ , provided when  $Q_1$  is  $CN$ , then  $X$  is absent;  
~~wherein  $Q_3$  and  $Q_4$  are each independently  $O$ ,  $S$  or  $NH$ ;~~  
 wherein one of  $R_2$  and  $R_3$  is a hydrogen atom and the other is

- (a)  $H$ ;
- (b) an alkyl of 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched;
- (c) a cycloalkyl of 3 to 6 carbon atoms, inclusive;
- (d) an alkenyl of 2 to 8 carbon atoms, inclusive, which may be straight chain or branched; or
- (e)  $R_aQ_2R_b$  wherein  $Q_2$  is  $-O-$  or  $-S-$ ; wherein  $R_a$  is alkylene of 0 to 6 carbons atoms, inclusive, which may be straight chain or branched and wherein  $R_b$  is alkyl of 0 to 8 carbon atoms, inclusive, which may be straight chain or branched, provided when  $R_b$  is 0, then  $R_b$  is a hydrogen atom;

wherein  $R_4$  is

- (a)  $H$ ;
- (b) an alkyl of 1 to 6 carbon atoms, inclusive, which may be a straight chain or branched;

wherein  $R_5$  is



wherein  $Z_i$ ,  $Z_{ii}$ ,  $Z_{iii}$ ,  $Z_{iv}$  and  $Z_v$  are each independently selected from  $-NO_2$ ,  $-CN$ ,  $-C(=O)-R_1$ ,  $-SO_3H$ , a hydrogen atom, halogen, methyl,  $-OR_x$ , wherein  $R_x$  is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl or a substituted or unsubstituted, branched or unbranched alkyl group;

wherein  $Y_1$  is -OH, methyl, -SH, an alkyl of 2 to 4 carbon atoms, inclusive, straight chain or branched, an alkoxy of 1 to 4 carbon atoms, inclusive, or  $CH_aZ_b$  where  $a+b=3$ ,  $a=0$  to 3,  $b=0$  to 3 and  $Z$  is cyano, nitro or a halogen;

wherein  $R_6$  is

- (a) H;
- (b) an alkyl from 1 to 4 carbon atoms, inclusive, straight chain or branched;

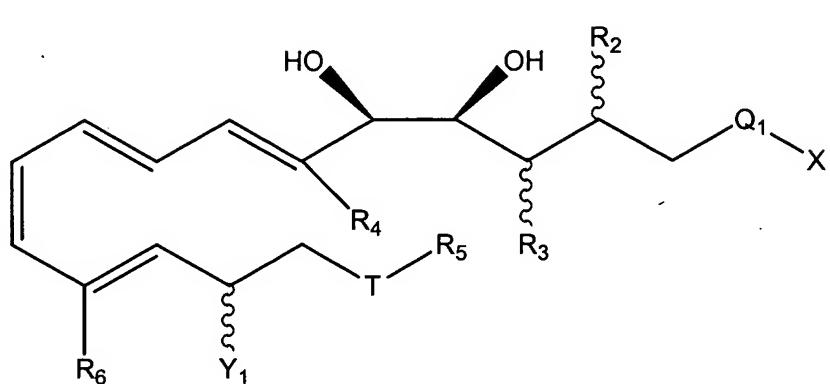
wherein T is O or S, and pharmaceutically acceptable salts thereof, such that PLD initiated superoxide generation or granulation is treated in a subject.

Claim 27. (Original): The method of claim 26, wherein said method is performed *in vitro*.

Claim 28. (Original): The method of claim 26, wherein said method is performed *in vivo*.

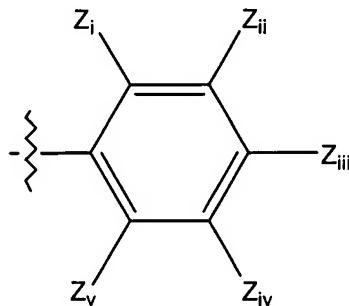
Claim 29. (Canceled)

Claim 30. (Currently amended) A packaged pharmaceutical composition for treating phospholipase D initiated activity in a subject, comprising:  
a container holding a therapeutically effective amount of at least one lipoxin compound having the formula



wherein X is R<sub>1</sub>, OR<sub>1</sub>, or SR<sub>1</sub>;  
 wherein R<sub>1</sub> is

- (i) a hydrogen atom;
- (ii) an alkyl of 1 to 8 carbons atoms, inclusive, which may be straight chain or branched;
- (iii) a cycloalkyl of 3 to 10 carbon atoms;
- (iv) an aralkyl of 7 to 12 carbon atoms;
- (v) phenyl;
- (vi) substituted phenyl



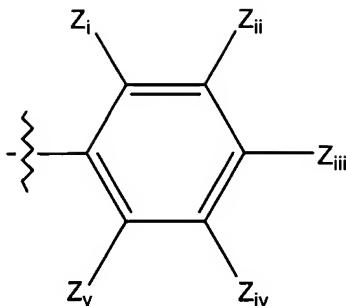
wherein Z<sub>i</sub>, Z<sub>ii</sub>, Z<sub>iii</sub>, Z<sub>iv</sub> and Z<sub>v</sub> are each independently selected from -NO<sub>2</sub>, -CN, -C(=O)-R<sub>T</sub>, -SO<sub>3</sub>H, a hydrogen atom, halogen, methyl, -OR<sub>x</sub>, wherein R<sub>x</sub> is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl;

D3

- (vii) a detectable label molecule; or
- (viii) a straight or branched chain alkenyl of 2 to 8 carbon atoms, inclusive;

wherein R<sub>T</sub> is

- (i) a hydrogen atom;
- (ii) an alkyl of 1 to 8 carbons atoms, inclusive, which may be straight chain or branched;
- (iii) a cycloalkyl of 3 to 10 carbon atoms;
- (iv) an aralkyl of 7 to 12 carbon atoms;
- (v) phenyl;
- (vi) substituted phenyl



wherein  $Z_i$ ,  $Z_{ii}$ ,  $Z_{iii}$ ,  $Z_{iv}$  and  $Z_v$  are each independently selected from  $-\text{NO}_2$ ,  $-\text{CN}$ ,  $-\text{SO}_3\text{H}$ , a hydrogen atom, halogen, methyl,  $-\text{OR}_x$ , wherein  $R_x$  is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl;

- (vii) a detectable label molecule; or
- (viii) a straight or branched chain alkenyl of 2 to 8 carbon atoms, inclusive;

wherein  $Q_1$  is  $(\text{C}=\text{O})$ ,  $\text{SO}_2$  or  $(\text{CN})$ , provided when  $Q_1$  is  $\text{CN}$ , then  $X$  is absent;

~~wherein  $Q_3$  and  $Q_4$  are each independently  $\text{O}$ ,  $\text{S}$  or  $\text{NH}$ ;~~

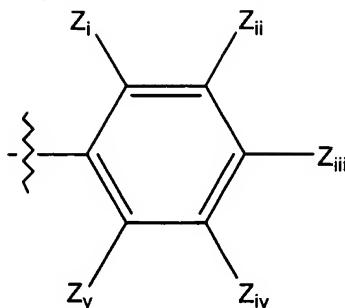
wherein one of  $R_2$  and  $R_3$  is a hydrogen atom and the other is

- (a)  $\text{H}$ ;
- (b) an alkyl of 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched;
- (c) a cycloalkyl of 3 to 6 carbon atoms, inclusive;
- (d) an alkenyl of 2 to 8 carbon atoms, inclusive, which may be straight chain or branched; or
- (e)  $\text{R}_a\text{Q}_2\text{R}_b$  wherein  $Q_2$  is  $-\text{O}-$  or  $-\text{S}-$ ; wherein  $\text{R}_a$  is alkylene of 0 to 6 carbon atoms, inclusive, which may be straight chain or branched and wherein  $\text{R}_b$  is alkyl of 0 to 8 carbon atoms, inclusive, which may be straight chain or branched, provided when  $\text{R}_b$  is 0, then  $\text{R}_b$  is a hydrogen atom;

wherein  $R_4$  is

- (a)  $\text{H}$ ;
- (b) an alkyl of 1 to 6 carbon atoms, inclusive, which may be a straight chain or branched;

wherein  $R_5$  is



wherein  $Z_i$ ,  $Z_{ii}$ ,  $Z_{iii}$ ,  $Z_{iv}$  and  $Z_v$  are each independently selected from  $-\text{NO}_2$ ,  $-\text{CN}$ ,  $-\text{C}(\text{=O})-\text{R}_1$ ,  $-\text{SO}_3\text{H}$ , a hydrogen atom, halogen, methyl,  $-\text{OR}_x$ , wherein  $\text{R}_x$  is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl or a substituted or unsubstituted, branched or unbranched alkyl group;

wherein  $Y_1$  is  $-\text{OH}$ , methyl,  $-\text{SH}$ , an alkyl of 2 to 4 carbon atoms, inclusive, straight chain or branched, an alkoxy of 1 to 4 carbon atoms, inclusive, or  $\text{CH}_a\text{Z}_b$  where  $a+b=3$ ,  $a=0$  to 3,  $b=0$  to 3 and  $Z$  is cyano, nitro or a halogen;

wherein  $\text{R}_6$  is

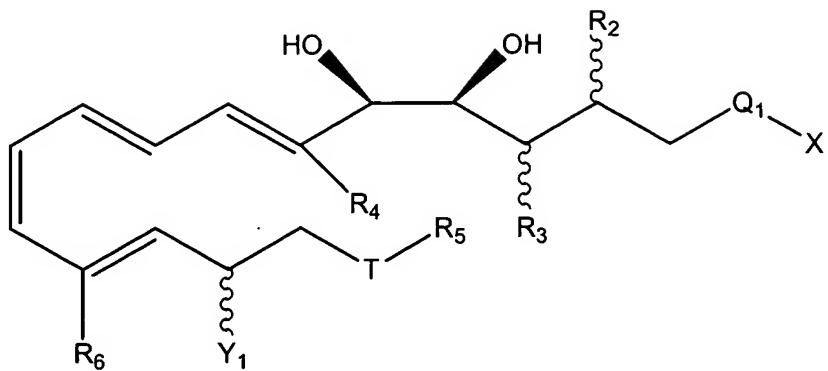
- (a) H;
- (b) an alkyl from 1 to 4 carbon atoms, inclusive, straight chain or branched;

wherein  $T$  is O or S, and pharmaceutically acceptable salts thereof; and instructions for using said lipoxin compound for treating PLD initiated activity in the subject.

Claim 31. (Canceled)

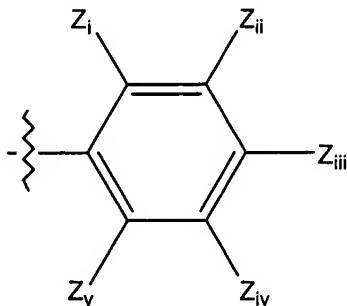
Claim 32. (Currently amended) A packaged pharmaceutical composition for treating phospholipase D (PLD) initiated superoxide generation or degranulation activity in a subject, comprising:

a container holding a therapeutically effective amount of at least one lipoxin compound having the formula



wherein X is R<sub>1</sub>, OR<sub>1</sub>, or SR<sub>1</sub>;  
 wherein R<sub>1</sub> is

- (i) a hydrogen atom;
- (ii) an alkyl of 1 to 8 carbon atoms, inclusive, which may be straight chain or branched;
- (iii) a cycloalkyl of 3 to 10 carbon atoms;
- (iv) an aralkyl of 7 to 12 carbon atoms;
- (v) phenyl;
- (vi) substituted phenyl



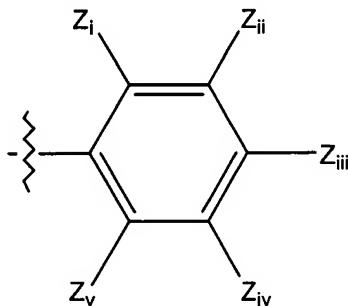
wherein Z<sub>i</sub>, Z<sub>ii</sub>, Z<sub>iii</sub>, Z<sub>iv</sub> and Z<sub>v</sub> are each independently selected from -NO<sub>2</sub>, -CN, -C(=O)-R<sub>T</sub>, -SO<sub>3</sub>H, a hydrogen atom, halogen, methyl, -OR<sub>x</sub>, wherein R<sub>x</sub> is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl;

- (vii) a detectable label molecule; or

(viii) a straight or branched chain alkenyl of 2 to 8 carbon atoms, inclusive;

wherein  $R_T$  is

- (i) a hydrogen atom;
- (ii) an alkyl of 1 to 8 carbons atoms, inclusive, which may be straight chain or branched;
- (iii) a cycloalkyl of 3 to 10 carbon atoms;
- (iv) an aralkyl of 7 to 12 carbon atoms;
- (v) phenyl;
- (vi) substituted phenyl



wherein  $Z_i$ ,  $Z_{ii}$ ,  $Z_{iii}$ ,  $Z_{iv}$  and  $Z_v$  are each independently selected from  $-NO_2$ ,  $-CN$ ,  $-SO_3H$ , a hydrogen atom, halogen, methyl,  $-OR_x$ , wherein  $R_x$  is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl;

- (vii) a detectable label molecule; or
- (viii) a straight or branched chain alkenyl of 2 to 8 carbon atoms, inclusive;

wherein  $Q_1$  is  $(C=O)$ ,  $SO_2$  or  $(CN)$ , provided when  $Q_1$  is  $CN$ , then  $X$  is absent;

~~wherein  $Q_5$  and  $Q_6$  are each independently  $O$ ,  $S$  or  $NH$ ;~~

wherein one of  $R_2$  and  $R_3$  is a hydrogen atom and the other is

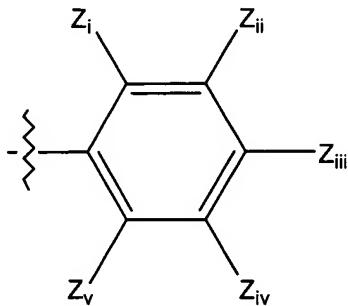
- (a)  $H$ ;
- (b) an alkyl of 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched;
- (c) a cycloalkyl of 3 to 6 carbon atoms, inclusive;
- (d) an alkenyl of 2 to 8 carbon atoms, inclusive, which may be straight chain or branched; or

(e)  $R_aQ_2R_b$  wherein  $Q_2$  is  $-O-$  or  $-S-$ ; wherein  $R_a$  is alkylene of 0 to 6 carbons atoms, inclusive, which may be straight chain or branched and wherein  $R_b$  is alkyl of 0 to 8 carbon atoms, inclusive, which may be straight chain or branched, provided when  $R_b$  is 0, then  $R_b$  is a hydrogen atom;

wherein  $R_4$  is

- (a) H;
- (b) an alkyl of 1 to 6 carbon atoms, inclusive, which may be a straight chain or branched;

wherein  $R_5$  is



wherein  $Z_i$ ,  $Z_{ii}$ ,  $Z_{iii}$ ,  $Z_{iv}$  and  $Z_v$  are each independently selected from  $-NO_2$ ,  $-CN$ ,  $-C(=O)-R_1$ ,  $-SO_3H$ , a hydrogen atom, halogen, methyl,  $-OR_x$ , wherein  $R_x$  is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl or a substituted or unsubstituted, branched or unbranched alkyl group;

wherein  $Y_1$  is  $-OH$ , methyl,  $-SH$ , an alkyl of 2 to 4 carbon atoms, inclusive, straight chain or branched, an alkoxy of 1 to 4 carbon atoms, inclusive, or  $CH_aZ_b$  where  $a+b=3$ ,  $a=0$  to 3,  $b=0$  to 3 and  $Z$  is cyano, nitro or a halogen;

wherein  $R_6$  is

- (a) H;
- (b) an alkyl from 1 to 4 carbon atoms, inclusive, straight chain or branched;

wherein T is O or S, and pharmaceutically acceptable salts thereof; and instructions for using said lipoxin compound for treating PLD initiated superoxide generation or degranulation activity in the subject.